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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,155	03/05/2002	Bruce E. Lavigne	100202520-1	9222

7590 01/26/2007  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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BLOUNT, STEVEN

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/092,155

Applicant(s)

LAVIGNE ET AL.

Examiner

Steven Blount

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 3, 5 – 8, 11 - 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,141,348 to Muntz in view of U.S. patent 7,016,351 to Farinacci et al.

Muntz teaches storing a packet in memory 312 (col 4 line 68) and then reading selected fields into a RAM/lookup table 520 (col 7 lines 7+) and using "control field contents" determined in accordance with this process wherein the contents are "perform(ed) to the data packet" (col 7 lines 10+). Although it is not *explicitly* stated that the lookup table consists of a routing table wherein the "contents are performed to the data packet" process consists of determining the next hop of the packet and then rewriting this information in the packet header (ie, as claimed, this equivalently corresponds to lines 9 – 11 of claim 1: "multiplexing select unmodified bytes corresponding to said packet stored in said first memory with said modified bytes in said second memory to generate said modified packet"), this process is strongly suggested by the discussion of the use of a router in col 1 lines 16+. Although Muntz does teach the use of a router, Muntz does not, however, teach that a router performs this process when forwarding packets (although it is frankly extremely well known in the art).

Farinacci et al teach the well known process of providing proper routing information to a packet by utilizing a routing table to determine the next hop, and then rewriting the packet with this information before forwarding it to the next router. See the abstract and also col 24 lines 28+ and Farinacci et al generally.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have allowed the system of Muntz to "multiplex" the bytes of the next router destination into the header of the original packet of Muntz, in light of the teachings of Farinacci et al, in order to allow a means for transferring the packet to its destination.

With regard to the following claims (hereinafter "CI") note the following: CI 2: the values in the table are precomputed; CI 3: packet format is discussed in col 7 lines 1+; CI 5 – 8, 11: see the above and note that the claimed elements are taught therein; CI 12 – 14: see the above and note the method steps are taught therein; CI 15 – 18: see the above and note the means clauses are described in relation to the discussion of the apparatus limitations discussed therein.

3. Claims 4 and 9 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,141,348 to Muntz in view of U.S. patent 7,016,351 to Farinacci et al as applied above to claims 1 and 5, and further in view of U.S. patent 6,980,552 to Belz et al.

Muntz/Farinacci et al teaches the invention as described above (see esp. col 1 lines 15+), but does not teach applying it to IP addresses, TTL fields, or checksum field values. Belz et al teach a similar device which performs a similar operation on these fields, as described in col 8 lines 6+, and col 8 lines 55+.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided Muntz/Farinacci with the ability to modify the IP addresses, TTL fields, and checksum field values, in light of the teachings of Belz et al, in order to provide an efficient means for switching and subsequently routing a packet in a data network.

4. Applicants remarks have been considered, but are not persuasive. The applicant requests clarification on the point of "reading selected fields into a RAM/lookup table and using "control field contents" determined in accordance with this procedure wherein the contents are "perform(ed) to the data packet". Applicant states that Muntz does not describe what "functions that networking equipment should perform on the data packet".

In response, the examiner notes that the specification should be read as a whole, and in light of the discussion of routers in the background section of the invention, col 1 lines 16+, it is obvious that this refers to the well known function of taking a packet, applying it to a routing table, and modifying the packet such that the next hop in the packets journey towards its destination is made in accordance with the value provided by the routers lookup table. It is further noted that the values in the routers lookup table are constantly changing (ie, being "computed") based on network conditions, utilizing means such as Dijkstra's algorithm or modifications thereof. The examiner notes that any routing algorithm would essentially read on applicants claimed invention since, as noted above, the packets IP next hop address will change as it is passed from router to router.

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Although, as noted above, the examiner believes any person of ordinary skill in this art would recognize that the process of using "control fields which describe the exact function that the networking equipment should perform to the data packet" (written generally by Muntz to cover multiple situations) would correspond to the packet header/router replacement process, the examiner has provided Farinacci et al to clarify this fact.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Blount whose telephone number is 571 - 272 - 3071. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached on 571 - 272 - 7269 . The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB

1/20/06

  
DORIS H. TO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

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